Telecommunications – mobile phones – engineering report

Sociology, Communication

This Report will examine the Historical development of the mobile phone in telecommunications, such as History, safety, Use in everyday life and innovations. Introduction: Cell phones, commonly known as mobile phones or wireless phones, are hand-held phones with small built-in antennas that connect to bigger antennas at a cell tower.

Unlike home phones, cell phones can be carried from place to place without the need to be plugged into a lan-line to make a call. This makes them a good choice for people who want to be in touch with other people even when they are away from the house. How Do Cell Phones Work people ask? Not many people know it, but cell phones are actually two-way radios similarly like the walkie-talkies from past decades, yet much more advanced. When you talk into your cell phone receiver, it registers your voice and converts the sound into radio waves. Without this you cannot hear the other person.

These waves travel through the air until they reach a receiver, which is usually found at a base station. This station will then send your call through a telephone network until it contacts the person you wish to speak with. When someone places a call to your cell phone, the signal travels through the telephone network until it reaches the station closest or near you. The station sends the radio waves out into the neighboring areas; this will be the closest tower in your area. These radio waves are then picked up by your cell phone and converted into the sound of a human voice.

Cell phones are a vast improvement over the telecommunicationstechnologyof the past, and are daily becoming a fixture ofmodern life. As always, communicationis vital, and cell phones will help

you to better communicate with the key people in your life. Using a cell phone is one of the first steps you must take to participate effectively in the emerging global economy. Analysis The History of Mobile Phones The history of mobile phones shows a deep understanding of Telecommunication and the development of devices which are connected wirelessly to a public switched telephone network.

The transmission of speech by radio has a long and excessive history going back to Reginald Fessenden's invention and shore to ship demonstration of radio telephone, through the Second World War (WWII) with military use of radio telephone links. Hand held radio transceivers have been available since the 1940's. Mobile telephones for automobiles became available from some telephone companies in the 1940's also. Early devices were bulky and consumed high power and the network supported only a few simultaneous conversations.

Modern cellular networks allow automatic and pervasive use of mobile phones for voice and data communications. In the United States, engineers from Bell Labs began work on a system to allow mobile users to place and receive telephone calls from automobiles, leading to the inauguration of mobile service on June 17, 1946 in St. Louis, Missouri. Shortly after, AT offered Mobile Telephone Service. A wide range of mostly incompatible mobile telephone services offered limited coverage area and only a few available channels in urban areas.

The introduction of cellular technology, which allowed re-use of frequencies many times in small adjacent areas covered by relatively low powered

transmitters, made widespread adoption of mobile telephones economically feasible. The advances in mobile telephone can be traced in successive generations from the early " 0G" services like MTS and its successor Improved Mobile Telephone Service, to first generation (1G) analogue cellular network, second generation (2G) digital cellular networks, and third generation (3G) broadband data services to the current state of the art, fourth generation 4G) native IP networks. Safety and Risks Associated with Mobile Phones When the first cell phones were made in1984, there were manyhealthrisks. Cell phones emit radiation that could be harmful. No testing had been done prior to releasing these phones to the public. The radiation could possibly lead to brain cancer with long-term use. Cellular phones give off an electromagnetic energy which is a type of non-ionizing radiation. This is similar to the radiation naturally found in thunderstorms. The RF electromagnetic energy that cellular phones create can penetrate through a body.

The main factors for the depth of penetration and how much is absorbed come from how close the phone is held and how strong its signal is. It is possible that cell phones can cause serious health issues such as cancer, epileptic seizures or sleeping disorders, changes in brain activity, reaction timing but none of this has been proven, this is all a assumption because of the Radio Activity the cell phones give off. Using cell phone whilst driving could cause serious driving accidents. They may also interfere with medical equipment. This includes pace makers, defibrillators and hearing aids.

Mobile phones also cause massive amounts of interference will aircrafts. This is why as a safety procedure they must be turned off during flight so devices can still remain operational. Innovations over History: The mobile phone is a wondrous device of technology which historians track 40 years of amazing innovation and a growing number of vintage mobile phone collectors fascinated by the choice and diversity. This piece of research sets out to serve both communities. Below is the 6th edition of research into the most historically important mobile phones. It's a uniquely global view.

It is the history of cellular radio seen through the evolution of mobile handset innovation. The research is far from complete and contributions are welcome on additional information about the mobile already identified and those ground breaking mobile phones that should be included. Many of the mobiles identified are still relatively easy to acquire at auctions whilst others are starting to become harder to find. Timeline from 1973-2012 of Mobile Phone Innovations 1. First Prototype portable radio telephone that took the mobile out of the car and into the hand (1973) 2.

Motorola Dynatac 8000X – turning a vision into a practical mobile phone (1983) 3. Technophone EXCELL PC105T – taking the mobile from the hand into the pocket (1986) 4. Motorola MicroTAC – some firsts in size and design (1989) 5. Orbitel 901 – the first GSM mobile and the first to receive a commercial SMS text message (1992) 6. Motorola 3200 – the first GSM hand portable (1992) 7. Nokia 1011 – Nokia's first GSM hand portable (1992) 8. Anon – The world's first mobile with a lithium-ion battery (1992) 9. Motorola m300 (& Siemens m200) – World's first mobiles at 1800 MHz (1993) 10.

Hagenuk MT-2000 – The world's first mobile providing a game to play (1994) 11. Nokia 2100 – 1st phone with Nokia tune (1994) 12. Nokia 9000 Communicator – the first mobile to make a reality of the mobile office (1996) 13. Siemens S10 – the first mobile phone with a full colour screen (1998) 14. Nokia 7110 – the first effort (WAP) at taking the Internet onto a mobile (1999) 15. Kyocera VP210 – the first mobile offering video telephony (1999) 16. Nokia 8850 – Introducing style into the design of mobiles (1999) 17. Motorola L7089 Timeport -Bridging the Atlantic for travelers (1999) 18.

Samsung SPH-WP10 – The world's first wrist watch mobile phone (1999) 19. Ericsson R380 – The mobile that blazed the trail for the SmartPhone (2000) 20. Ericsson T36 – the first mobile with blue-tooth (2000) 21. Samsung SCH-N300 with Verizon – the first commercial A-GPS (2001) 22. Siemens SL45 – the first mobile with MP3 player (2001) 23. Blackberry 957 Internet edition – the mobile that made a reality of push e-mail (2001) 24. Sharp J-SH04 – first to discover the consumer love affair with the camera phone (2001) 25.

Matsushita P2101V – World's First 3G Mobile Phone and use of 2100 MHz spectrum (2001) 26. Sharp Mova SH251iS – The first 3-D screen on a mobile phone (2002) 27. Motorola Razr V3 (2004) – Setting a trend for thinness (2004) 28. Vertu Ascent – Turning the mobile phone into a luxury item for the super-rich (2004) 29. Samsung MM-A700 – Turning speech into text on the mobile phone (2004) 30. Neonode N1 – First mobile with a finger swipe to unlock (2004) 31. Motorola C113a – Making the mobile phone affordable to the world's poorest (2005) 32. Nokia N92 – The dream of mobile TV (2005) 3. Samsung B600 – The world's first 10 MP camera (2006) 34. BenQ S88 – First

mobile with OLED display (2006) 35. Apple i-phone – igniting the smartphone and mobile data revolution (2007 36. Samsung SCH-B710 – First 3-D mobile phone Camera (2007) 37. The T-Mobile G1 Smartphone – Arrival of theGoogleAndroid Operating System (2008) 38. Samsung SCH-r900 – The world's first LTE mobile (2010) 39. Samsung Beam (I8520) – The world's first mobile with built-in projector (2010) 40. Nokia 808 Pureview – A 41MP camera to advance camera phone picture quality (2012) 41.

Sharp Pantone 5 107SH – World's first mobile with built in radiation monitor (2012) The Smart Phone Era Android Android is an open source platform founded in October 2003 by Andy Rubin and backed by Google, along with major hardware and software developers such as Intel, HTC and Samsung. That forms the Open Handset Alliance. The first phone to use Android was the HTC Dream, branded for distribution by T-Mobile as the G1. The software included on the phone consists of integration with Google's applications, such as Google Maps, Calendar, and Gmail, and a full HTML web browser service.

Android supports the execution of native applications and a pre-emptive multitasking capability. Free and paid apps are available via Google Play, which launched in October 2008 as Android Market. In January 2010, Google launched the Nexus One Smartphone using its Android OS. Although Android has multi-touch abilities, Google initially removed that feature from the Nexus One, but it was added through a firmware update on February 2, 2010. Phones such as the Samsung Galaxy S III was so highly anticipated, sales hit 8 million within first weekend in 2012. iPhone/ iOS In 2007, Apple

Inc. ntroduced the original iPhone, one of the first mobile phones to use a multi-touch interface. The iPhone was known for its use of a large touch screen for direct finger input as its main means of interaction, this meaning a touch screen as its main form of use. Instead of a stylus or keypad as typical for smart phones at the time. It initially lacked the capability to install some applications, meaning some did not regard it as a Smartphone. Adobe flash was one of its bigger issues. However in June 2007 Apple announced that the iPhone would support third-party " web 2. applications" running in its web browser that share the look and feel of the iPhone interface. A process called jail breaking emerged quickly to provide unofficial third-party applications to replace the built-in functions, otherwise known as cracking the phone. In July 2008, Apple introduced its second generation iPhone, iPhone 3G, with a much lower list price and 3G support. Simultaneously, the App Store was introduced which allowed any iPhone to install third party applications; these were however both free and paid for, Over a Wi-Fi network, without requiring a Computer for installation.

Applications could be browsed through and downloaded directly from the iTunes software client. Featuring over 500 applications at launch date, the App Store was noted and became very popular, and achieved over one billion downloads in the first year, and 15 billion by 2011. In June 2010, Apple introduced iOS 4, which was brought to you on the new iPhone, iPhone 4S, which included APIs to allow third-party applications to multitask with an improved display and back-facing camera, a front-facing camera for videoconferencing, and other new innovations.

In early 2011 the iPhone 4 allowed the handset's 3G connection to be used as a wireless Wi-Fi becon or hotspot. The iPhone 4S was announced on October 4, 2011, improving upon the iPhone 4 with a dual core A5 processor, an 8 megapixel camera capable of recording 1080p video at 30 frames per second, higher phone capability allowing it to work on both GSM & CDMA networks, and the Siri automated voice assistant. Mobile Phones in everyday life Mobile phones are also known as lifesavers as they can help people in emergencies.

If you get stuck in the middle of the road and find no one for help, you can just use a mobile phone and call for help or assistance. Mobile phones are a comfortable way of communicating over a long distances. Along with the obvious convenience and quick access to help in emergencies, mobile phones can be both economical and essential for travellers trying to stay connected to news from across seas. In Japan, mobile phone companies provide immediate notification of earthquakes and other natural disasters to their customers free of charge. In the event of an emergency, disaster response crews can locate trapped or njured people using the signals from their mobile phones or the small detonator of flare in the battery of every cell phone; an interactive menu accessible through the phone's Internet browser notifies the company if the user is safe or in distress. We have also have been downloading Java games and video clips to our mobile phones. Several online mobile phone shops have come up to cater the increase in demand for the best mobile phone handsets and ear pieces and the most reliable and cost-effective. Result Summary Historically there has been many significant development Innovations to mobile phones over time.

Much of the recent Mobile phones have caused risk issues, which means the constant use of mobile phones can be very hazardous to the person. Yet with the sheer numbers of users with mobile phones is uncanny it shows us as a society cannot live without our mobile phones. By analysis we came to know that mobile phone have both positive and negative aspect. We cannot live without its help. We need them in each and every step so that we can perform our work much more easily. With the help of mobile phones we can also call whoever we wish and ask about last minute things.

We may take pictures at anytime in case we don't have a digital camera. We have the ability to communicate instantly in an emergency. If we have a good plan, we don't need a home phone. Cell phones are good to carry if you break down somewhere. New phones have calendars, and planners and alarms so you now you can throw out the ones at home. Having mobile phone it can cause many problems. Mobile phones save our time but we should try to use the mobile in good things only not in bad one. It is one technology which has enhanced our lifestyle not overcome us.

We should take benefits of several innovations of this technology in this globalized world. Mobile phone in a way is very demanding and is getting its place in the market regularly no matter it changes its features, price and others. Conclusion/Recommendations There is no telling how cell phones will evolve over time, and how they will affect the future, but it is safe to say that they certainly will be changing. Over the past few years cell phones have evolved from something you simply call someone on, to now being almost like mini computers, with a large variety of capabilities.

One idea that others have for the future of cell phones include having a super fast charge, with as little as a 10 second charge time. In conclusion mobile phones are easily acceptable new trend and it plays a vital role for every individuals.

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